U.S. Department of the Interior
National Park Service
Acadia National Park
Bar Harbor, Maine

Finding of No Significant Impact
Carriage Road Bridges Rehabilitation

Introduction

The National Park Service (NPS) proposes rehabilitating the carriage road bridges (bridges) in Acadia National Park (ANP) to correct deteriorating conditions on each bridge. This rehabilitation project includes work on 15 masonry arch bridges, 9 steel stringer bridges, and one concrete culvert. Full rehabilitation as documented in the EA includes three main components:

1. rehabilitating structural and architectural features that have deteriorated over time, including components to prevent water from infiltrating the bridges, rectifying scouring and erosion problems underneath and adjacent to some of the bridges;
2. rehabilitating the surrounding landscape and setting; and
3. rehabilitating small portions of trails adjacent to eight of the bridges.

The bridges are an integral part of the carriage road system (CRS), which extends approximately 45 miles through the interior of ANP plus an additional 12 miles on private lands. The CRS has been listed on the National Register of Historic Places. Each of the bridges is architecturally unique and complements the historically significant landscape.

An Environmental Assessment (EA) was released for a 30-day public comment period on February 3, 2003, in accordance with the National Environmental Policy Act (NEPA) and NPS Director's Order 12 (DO-12). The EA described the goals and objectives of the rehabilitation project, analyzed the effects of the "No Action" and "Full Rehabilitation" alternatives on natural resources, cultural resources, visitor and staff safety, visitor use and experience, and solicited public comment. The following briefly summarizes the findings of the EA into the appropriate regulatory context consistent with NEPA and DO-12, and provides the required Finding of No Significant Impact (FONSI) statement for the EA.

Several impact topics relating to potential effects from the project were analyzed in the EA. Natural resource topics included soils, water quality, wetlands, wildlife, and vegetation. Cultural resources topics analyzed included historic structures and cultural landscape. Two topics were analyzed relating to visitor use: visitor and staff safety, and visitor use and experience.

Alternatives Considered

The two alternatives proposed and analyzed in the EA included:

A) "No Action";
B) "Full Rehabilitation" (NPS preferred alternative).

Alternative A: No Action

The "No Action" alternative does not accomplish the goals of the project and was included only to provide a baseline for the assessment of the proposed rehabilitation on resources, visitor and staff safety, and visitor experiences. This alternative would not proceed with any rehabilitation measures and the bridges would continue to deteriorate. The slow deterioration could eventually lead to structural components becoming unsound and the aesthetic qualities compromised. It is possible that deteriorations would become significant and result in unsafe conditions, bridge closures, and the need for reconstruction. Long-term bridge closures could eventually lead to closures of portions of the CRS.

Alternative B: Full Rehabilitation

The NPS Preferred Alternative "Full Rehabilitation" would include actions to prevent water infiltration into the bridge structures, improving drainage, repointing mortar joints, removing surface deposits, replacing deteriorated guardrails, resetting loose and displaced stones, closing or formalizing adjacent social trails, rehabilitating adjacent hiking trails, repairing erosion and scouring, very minor vegetation pruning for vista improvements and to allow machinery access, and establishing vegetation in adjacent to several of the bridges. Rehabilitation would bring each bridge up to its original aesthetic and structural condition, provide minor benefits to natural resources and safety issues and moderate benefits to cultural resources and visitor use and experience.

The main source of bridge and landscape deterioration is water infiltration into the bridges, which comes from several sources including direct seepage from the road surface, infiltration through cracked mortar joints and loose or displaced stones, and poor drainage that causes water to back up in and on the surfaces of the bridges. Therefore, one of the most important aspects of the rehabilitation is repairing bridge components that prevent water seepage.

Poor drainage around the bridges creates erosion, which encourages the creation of social trails and subsequent siltation in the streams. Anther important part of Alternative B is correcting erosion problems adjacent to bridges.

Loose and fallen stones and rotten wood railings represent safety hazards for ANP visitors and staff. Repair and replacement of these components would improve safety conditions.

The repair of erosion and scouring along banks and within stream channels is necessary to stop the loss of soil and the degradation of water quality that affects downstream habitat. Repairing this erosion and scouring would improve the ecological conditions downstream.

Minimization: A number of minimization activities in Alternative B will help to avoid and reduce the potential impacts to natural and cultural resources, and visitor experiences, while improving visitor and staff safety. These minimization activities will be incorporated into the construction plans and implemented as part of the rehabilitation. Minimization activities address diverse factors such as a phased bridge and road closure plan, phasing of heavy construction (bridge closure needed) verses mortar and minor earth work (bridge closure not needed), implementing Best Management Practices, stockpiling materials on the carriage road surface, delineating construction vehicle traffic routes, and using sandblasting instead of chemicals to remove calcium buildups on the bridges. Impacts to the visitor experience will be minimized by scheduling bridge closures during off-peak times, preparing a road loop

closure plan and completing the construction for all the bridges on that closed road loop, and through signage and information postings. Completing the scouring repairs during the dry season and using erosion control methods such as staked hay bales and a small portable temporary dam will be used to avoid erosion impacts.

Environmentally Preferred Alternative

The Environmentally Preferred Alternative, as defined by DO-12, is the alternative that causes the least damage to the biological and physical environment, and which best protects, preserves, and enhances historic, cultural, and natural resources. In this case, the NPS Preferred Alternative (Full Rehabilitation) is also the Environmentally Preferred Alternative. Implementing the Preferred Alternative will return the bridges to their original condition, maintain the structural and aesthetic integrity of each, and prevent future degradation that could lead to bridge closure and/or significant reconstruction. Completing the rehabilitation is the least damaging alternative to cultural and natural resources and meets the basic project purpose. Short-term, negligible to minor impacts would occur to natural and cultural resources, while long-term, minor to moderate beneficial effects would occur. Short-term, minor adverse effects would occur to safety and visitor use topics. Long-term, minor improvements to the safety topic would be expected, while long-term, moderate benefits to visitor use would be anticipated. Restoration of the bridges will enhance visitor use experience of the CRS and provides sound stewardship of a valuable cultural resource.

Alternative A would not fulfill the basic project purpose, would lead to the continued deterioration of the bridges. Structural damage could result and lead to the eventual closure of the bridges.

Decision

The NPS will fully rehabilitate the bridges to maintain the architectural, cultural, historic, and structural integrity of each bridge, as described in the "Full Rehabilitation" alternative of the EA. This decision is based on the analysis of effects as provided in the EA and the best professional judgment of park staff. There were no public comments to consider in this decision.

Why the Selected Alternative will not have a Significant Effect on the Human Environment

Consideration of effects described in the EA and a finding that they are not significant is a necessary and critical part of this FONSI as required by the Code of Federal Regulation (CFR) (40 CFR 1508.13). Significance criteria are defined (40 CFR 1508.27) to consider direct, indirect, and cumulative impacts and the context and intensity of impacts. Minimization measures described in the EA and incorporated into the preferred alternative, including construction monitoring and sediment and erosion control are generally required by laws, regulations, or NPS policies and are adopted by this decision.

Context

This measure of significance considers the setting within which an impact was analyzed in the EA, such as the affected region, society as a whole, affect interests, and locality. In the EA, the intensity of the impacts was evaluated within a local or project area context, while the intensity of the effects of

cumulative impacts was evaluated in a more regional context. This decision and the preferred alternative adversely affect only the immediate local area in terms of natural and cultural resources, visitor use and experience, employees, local residents, and the economy. These adverse effects are temporary, short-term, and limited to certain situations at specific bridges.

Intensity

This measure of significance refers to the severity of impacts, which may be both beneficial and adverse, and considers the measures that will be applied to minimize or avoid impacts, as discussed above. Impact thresholds used in the EA include:

- For natural resource impacts:
  - *Negligible:* Impacts would not be detectable, measurable, or observable.
  - *Minor:* Impacts would be detectable, but not expected to have an overall effect on the natural community. Impacts generally affect less than one-half acre of the resource or would not be expected to be outside the natural range of variability for that resource.
  - *Moderate:* Impacts would be clearly detectable, but could have short-term appreciable effects on the local ecology. Impacts may affect up to one-acre of the resource, but would not threaten the continued existence of that resource.
  - *Major:* Long-term or permanent, highly noticeable effects on individual species, community ecology, or natural processes. Impacts may affect over one-acre of resource area or may affect the continued existence of that resource.

- For cultural resource impacts:
  - *Negligible:* Impacts would not be detectable, measurable, or perceptible, essentially a determination of *no adverse effect.*
  - *Minor:* Negligible effects with limited change to the structure or landscape. Impact would not affect the character defining features of the structure or landscape, essentially a determination of *no adverse effect*.
  - *Moderate:* Noticeable changes to the character defining features of the structure or landscape, but does not diminish the integrity or change the essence of either. A finding of *no adverse effect* would be appropriate.
  - *Major:* Significant changes to the structure or the landscape thereof, that affects the character defining features and integrity of either. A determination that would result in an *adverse effect* would be made.

- For safety impacts:
  - *Negligible:* Impacts would not be detectable, measurable, or perceptible.
  - *Minor:* Effects would be limited to a small number of visitors and could be avoided or minimized through planning.
  - *Moderate:* Safety concerns, resulting in permanently increased accident rates, would still exist despite implementing all minimization efforts.
  - *Major:* Significant safety issues that would warrant the closing of some bridges and possibly portions of the carriage roads for a long-term period or permanently.

- For visitor use and experience impacts:
  - *Negligible:* Impacts would not be detectable, hence visitors would not be aware of any effects of the rehabilitation.

- *Minor:* Visitors would be aware of effects, but this would be short-term and could be avoided or minimized through planning.
- *Moderate:* Very noticeable long-term effects resulting in some negative visitor experiences, despite implementing minimization efforts.
- *Major:* Very noticeable long-term effects with the loss of use of a resource during a peak time creating a widespread negative visitor experience or may result in a permanent loss of use of a resource.

Significance Criteria

As defined in 40 CFR 1508.27, significance is determined by examining the following criteria:

Impacts that may be both beneficial and adverse
Bridge repairs will require closing some portions of the carriage roads temporarily. Although these closures will be short-term, they will have a minor adverse effect on visitor use and experience. Careful planning, signage, and scheduling of work will minimize these adverse impacts. Minor erosion impacts could result from repairing scouring and erosion within and along the streams. Implementing erosion control practices and completing the work during the dry season will minimize these impacts.

Long-term, moderate beneficial effects include returning the bridges to their original condition and preventing further deterioration by installing bridge components to prevent water from infiltrating the bridges. Repairing scouring and erosion problems will have a minor long-term beneficial effect. Overall the rehabilitation will have moderate beneficial effects and provide for the long-term maintenance of these historic structures and the cultural landscape.

Degree of effect on public health or safety
"Full Rehabilitation" will have no effect on public health or safety. The presence of construction equipment poses a minor safety hazard, but will be mitigated with proper signage, barriers, designated construction equipment travel routes, and road closures. Masonry work can be completed with the bridges remaining open, but access restricted to a single or double lane. During this restriction, a clear path for visitors to travel will be designated and the partial closure will ensure a safety zone for masonry workers to complete their tasks undisturbed.

"Full Rehabilitation" provides minor to moderate, long-term benefits to the public safety by maintaining the bridges and insuring their structural integrity and by repairing guardrails and replacing loose and fallen stones.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas
The bridges are an integral part of the CRS, which is listed on the Register of National Historic Places. Full rehabilitation would benefit these nationally significant resources, which the NPS is obligated to maintain appropriately. There are no adverse effects expected to other park lands, prime farmlands, wild and scenic rivers, and ecologically critical areas. Impacts to wetlands and streams will be temporary, minimal and localized.

Consultation with the Maine Historic Preservation Commission (State Historic Preservation Office) in compliance with Section 106 of the National Historic Preservation Act will be completed prior to any on-

site construction to assure that the project would have no adverse effect on cultural resources adjacent to or within the project site.

Degree to which effects on the quality of the human environment are likely to be highly controversial
The Full Rehabilitation Alternative has not been controversial as evidenced by the lack of public comment on the EA. The EA was sent to a broad group of local interest groups, businesses, chambers of commerce, and interested individuals. In addition, it was posted in local libraries and the availability of the EA was announced in three local papers.

Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks
Alternative B does not appear to have any highly uncertain, unique, or unknown risks. The planning process for this work has involved numerous professionals, from both the NPS and private consulting firms.

Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration
Adopting Alternative B will not establish a precedent for future actions with significant effects. Anticipated future actions or considerations would include necessary maintenance as needed.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts
Rehabilitation of the bridges is one individual component of the overall plan to rehabilitate the CRS. The bridge rehabilitation was separated from the rehabilitation of the roads and vistas for three reasons: the immediate need for road upgrading and repair; funding mechanisms; and the difference in maintenance needs and frequency. Rehabilitating the CRS does not create any significant cumulative impacts.

Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources
The CRS is listed in the National Register. The proposed action will not adversely effect these resources. Rather, it will rehabilitate the bridges and their historic settings.

Degree to which the action may adversely affect any endangered or threaten species or its critical habitat
Rehabilitating the bridges will have no affects on any endangered or threaten species or their critical habitat. As confirmed by the US Fish and Wildlife Service, there are no known endangered or threatened species or designated critical habitats around the bridges.

Whether the action, threatens a violation of federal, state, or local environmental protection law
Rehabilitating the bridges will not threaten or violate any environmental protection laws. The rehabilitation work will comply with all federal, state, and local laws and is an activity that is fully within and allowed by any such laws.

Impairment
In addition to reviewing the list of significance criteria, the NPS has determined that implementing the preferred alternative will not constitute an impairment of ANP resources and values. This determination is based on a through analysis of the impacts described in the EA and the professional judgment of the NPS staff and consultants in accordance with the management policies of the NPS. Implementation of

the selected alternative would not result in major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of ANP; (2) key to the natural or cultural integrity of ANP; or (3) identified as a goal in ANP General Management Plan or other relevant NPS planning documents.

Public Involvement

The EA was made available in local libraries and on the ANP Internet site for public review and comment during a 30-day period beginning February 3, 2003. In addition approximately 50 copies of the document were mailed directly to interested persons, American Indian tribes, and regulatory agencies.

No written comments were received from the public in response to the EA.

Finding of No Significant Impact

The implementation of the selected alternative, Full Rehabilitation, will not constitute an action that normally requires preparation of an Environmental Impact Statement. The Full Rehabilitation alternative will have beneficial effects and protect important cultural and historic resources. Implementing this alternative will not have a significant adverse effect on the human environment. Negative environmental impacts that could occur are negligible or minor in intensity, and short-term in duration, and generally localized. There are no significant impacts on public health, public safety, threatened or endangered species, historic properties either listed in or eligible for listing in the National Register of Historic Places, or unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the full restoration will not violate any federal, state, or local environmental protection law.

Based on the foregoing, it has been determined that an Environmental Impact Statement is not required for this project and thus will not be prepared.

Recommended: /s/ Len Bobinchock 3/10/03
Len Bobinchock Date
Acting Superintendent, Acadia National Park

Approved: /s/ Chrysandra Walter for 3/19/03
Marie Rust Date
Director, Northeast Region